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ABSTRACT

A Study of 18 handicapped males (mean age 7 years) and their parents was conducted to ascertain initial characteristics on entering a physical development clinic, and to detect changes in the functioning level coinciding with their first exposure to the clinic program. Both prior to and following completion of the 8-week clinic program, Ss were given the Child Behavior Inventory (CBI) tasks and a battery of tests to assess motor, visual perception, and intellectual functioning, while parents filled out a CBI form and then participated in a structured interview. Results were divided into four areas of research: demographic characteristics, pre- and post-session CBI results, pre- and post-session test battery results, and post-session interviews with parents. Among the findings were that the Ss made up a heterogeneous population and that little positive change is shown by first time enrollees on objective measures although parents reported improvement in coordination. Evidence suggested that exposure to more than one 8-week session of the clinic program is necessary to promote measureable change, and that different outcomes may depend on the initial status of the child. (Tables are included to explain statistical data.) (SB)

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INITIAL CHARACTERISTICS AND SHORT TERM CHANGES OF BOYS ENROLLED IN A PHYSICAL DEVELOPMENTAL CLINIC *

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INITIAL CHARACTERISTICS AND SHORT TERM CHANGES OF BOYS ENROLLED IN A PHYSICAL DEVELOPMENTAL CLINIC[1]

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The purpose of this investigation was to ascertain the initial characteristics of male children between six and ten years of age entering a physical developmental clinic program, and to detect changes in their functioning level coinciding with their first exposure to the clinic program. The Children's Physical Developmental Clinic at the University of Maryland was designed to serve the surrounding community by providing a program to improve coordination, self-confidence, and social adaptability in children referred for help by local professionals. In that the clinic has been generally run under an "open door" policy, it inevitably provides service to a diverse group of children with a variety of presenting problems. For this reason, the present study was undertaken, in part, to better delineate the nature of the difficulties experienced by clinic enrollees. A status evaluation was attempted at three levels: a) parental perceptions of their children's problems, b) observer ratings of the children's behavior under standardized conditions, and c) psychological assessment focusing on intellectual performance, perceptual problems, and motor ability. In addition to the pre-clinical status evaluation, a similar evaluation was conducted following the first semester of participation in the program which consisted of up to nine sessions in the clinic. Thus, pre and post clinical comparisons could be made to determine whether any notable changes

in functioning had occurred during the course of first program experience. Data were also collected on the families of the clinic enrollees, their developmental histories, and other treatment programs attempted previously or concurrently with clinic participation.

In the present study only male children were sampled from the clinic population. This strategy was followed because the low proportion of female clinic enrollees would have made it impossible to find an adequately large group of first-time female participants to permit comparisons by sex, and because previous findings on female participants (Fretz, Johnson, and Johnson, 1968) describe the female population and suggest that the girls in the program tend to be measurably different from male participants in that they show more severity of initial impairment.

While a thorough description of the Physical Developmental Clinic is beyond the scope of this report and is available in previous publications by Clinic director Warren R. Johnson (1965, 1966a, 1966b) several features of the program warrant discussion in explaining the purpose of the present evaluation. The Clinic provides, in most instances, a one-to-one relationship between enrollees and a paraprofessional clinician with activities which focus upon therapeutic play and physical skill development. Participating children are enrolled for a semester of involvement, consisting of about eight or nine weekend sessions lasting one hour each. In general, however, children are re-enrolled for succeeding semesters after their initial experience, so that the usual course of the intervention may involve several years of participation in the program and may carry a given child to puberty or even beyond. The present investigation deals only with children entering the clinic for the first time, and examines their progress only through the

course of a single set of sessions. Thus, this study cannot be regarded as providing a true assessment of the full impact of the program. The children assessed do represent, however, a virtually inclusive sample of the first time male enrollees, and, therefore, can provide us with a picture of the initial status of typical participants and the short term effects of brief exposure to the clinic program.

Recent Relevant Research

Previous findings with respect to the clinic population, particularly those reported by Fretz, Johnson, and Johnson (1968) clearly verify the impressionistic data which suggests that the Clinic program ministers to a diverse set of developmental problems in children. Referral problems cited in the 1968 report included brain damage, retardation, physical coordination, sensory defects, hyperactivity, anomalous physical growth patterns, and a variety of social adaptation difficulties. Not surprisingly, given the title of program, problems of physical coordination were the most frequently cited reason for referral to the program. The evidence of many years of Clinic operation suggests, however, that specific motor skill deficits have generally been associated with other problems of social adaptation, and that a child lacking only in motor skills is a rarity among the children served by the program. It is difficult, therefore, to specify any single body of research literature which will bear upon the clinic population and its problems.

Perhaps the most promising area of research to examine with regard to the problems of children in the Clinic is the study of developmental hyperactivity. Previous tabulations of referral problems (Fretz, Johnson, and Johnson, 1968; Johnson, Fretz, and Johnson, 1968) have shown that hyperactivity is a presenting complaint with more than a quarter of the male children brought to the Clinic. Further, a number of the other referral problems cited,

including muscular incoordination, academic difficulties, and social adjustment problems have been implicated as frequent correlates of hyperactivity (Van Osdel and Carlson, 1972) raising the possibility that this syndrome might be diagnostically appropriate even for some of the children in whom it had not been previously diagnosed.

A recent study of hyperactivity (Battle and Lacey, 1972) longitudinally examined the phenomenon as it was observed in a sample of 74 children in the Fels Yellow Springs developmental research. Children were rated for activity level manifested during several developmental periods from infancy to adulthood. Activity ratings were correlated with a variety of test variables and with data reported by parents and other informants. Of particular interest in relation to the present investigation were the data concerning males in the six to ten year age range. Motor hyperactivity in this period was correlated with low achievement striving, frequent attention seeking, attempts to dominate adults and peers, and physical agressiveness toward same sex peers. Hyperactivity and IQ tests performance were not found to be related. Interestingly, hyperactive boys between three and six were found to be low in intellectual achievement striving but high in persistance at physical tasks. In the subsequent period low striving in physical tasks was also characteristic. The special relevance of this finding to the work of the Developmental Clinic would seem to lie in the fact that most children referred to the program are six or older. The lack of skill and interest in sensorimotor activities often constituting the contral complaint as cited by parents may be related, for some children, to the phenomenon observed in the Fels study in which the elementary years were associated with a withdrawal of interest in motor task success. The lack of "self-confidence" often invoked by parents of clinic children to

explain their boys' coordination problems (Fretz, Johnson, and Johnson, 1968) may reflect the fact that earlier striving had been observed to give way to apathy and increasing skill deficits. Such a change might well be salient to parents of children showing this pattern, whereas low interest in intellectual striving may have been a consistent characteristic of the child and less subject to parental identification as a major complaint.

Another recent finding is similarly of particular relevance to the assessment of the Physical Developmental Clinic Program. It has frequently been asserted that hyperactivity is a self-correcting condition which tends to abate at or after puberty. If this is the case, the Clinic program, which often serves children from middle childhood up through their early adolescence may be inappropriately credited for improvements which would have occurred even in the absence of any clinic participation. Recent findings do not appear to support this conclusion. Minde, Lewin, Weiss, Lavigueur, Douglas, and Sykes (1971) studied 37 children who had been diagnosed as hyperactive four to six years earlier. These children, 34 of them males, had an average age of slightly over 11 years, and were found to show continued inferiority to controls in the areas of academic success, behavior ratings, and intellectual test performance. Moreover, many of the hyperactive children had already experienced reversals of fate, such as being held back in school grades, which might continue to pose problems even if the original condition were to disappear. Reviewing several studies, Van Osdel and Carlson (1972) conclude that the problems of hyperactive children often persist into adolescence and that the long range prognosis is not highly favorable. Thus, recent research disputes the possibility that positive changes seen in clinic enrollees should be attributed solely to maturation, while suggesting the considerable importance of effectively intervening with young hyperactives.

Although hyperactivity is one of the more common problems bringing children to the Clinic it is clear that this diagnosis does not apply to the entire male enrollment. Indeed, Fretz, Johnson, and Johnson (1968) found that about as many boys as were referred as hyperactive were referred as being too quiet. Quietness, perhaps accompanied by physical incoordination, could suggest a variety of diagnoses including mental deficiency, emotional disturbance, focal brain lesions, deficiency diseases, or physical non-neurological illnesses. In some instances, children have come to the Clinic program already bearing one or more of these labels. In an associated summer program serving an overlapping (but more impaired) population of children about 38% of the children were classed as emotionally disturbed, 42% as mentally retarded, 20% as brain damaged, 26% as hyperactive and 16% as overly aggressive. (Johnson, Fretz, and Johnson, 1968).

With regard to programs emphasizing physical skills with brain damaged children there is considerable data on the innovative work of Frostig, Mentesseri and others. On the other hand, the Physical Developmental Clinic as a program for emotionally disturbed children is somewhat more unique, and less relevant data is to be found (although some might argue that the Clinic program shares many features in common with the play therapies employed by professional mental health workers). Numerous evolving programs in which paraprofessional workers engage emotionally disturbed children in a one-to-one relationship have been assessed and shown to have positive impact (for example, the program of school mental health aides reported by Zax and Cowen, 1967). Most programs of intervention in emotional problems of children do not, however, place the emphasis on physical skills that is characteristic of the Maryland program. Previous studies of the emotional impact of the

Physical Developmental Clinic itself suggest that short range benefits of the program may exist which are only peripherally related to the physical education emphasis. West, Fretz, and MacDonald (1970) compared the risk taking behavior of 49 clinic boys, aged five to 13, with the behavior of 23 controls. Prior to the clinic experience the clinic sample showed a significantly higher percentage of low risk takers than did the control group. After a semester in the program the clinic boys more nearly resembled the non-referred controls. In an earlier study (Johnson, Fretz and Johnson, 1968) participation in the program was found to be associated with a limited set of positive self-concept changes in enrollees of both sexes. Finally, Fretz and Johnson (undated) found that male clinic participants, aged five to ten years, showed a decrease in restless behaviors, dependency, and negative attention seeking. In sum, empirical evidence relevant to the mental health benefits of the clinic program tend to provide favorable evidence with regard to particular aspects of psychosocial adaption.

The fact that the clinic program enrolls significant numbers of mentally deficient children opens yet another area of relevant research. Corder (1966) employed a physical education program with a group of adolescent male educable retardates. He found that the 20 hour program produced increases in the full-scale and verbal scale IQ's on the WISC as well as an improvement in physical fitness. Funk (1971) offered a similar but more lengthy program of physical training to trainable retardated, 8 to 18, of both sexes. Here again, physical benefits were observed but no attempt was made to measure other possible effects.

One recent finding relevant to the present investigation concerns the significance of many of the measures employed in assessing the clinic popula-

tion. Robinson and Schwartz (1973) conducted a longitudinal study of the relationship of visual and motor skills to reading ability. As in the study to be described in this report Robinson and Schwartz utilized a test battery which included WISC items, the Bender Gestalt, and the Frostig. A group of 41 children about to enter the first grade in an ordinary school were identified as carrying a high risk for reading difficulties based upon assessed deficiencies in visual perception and/or visual-motor coordination. A control group of 23 children performing at normative levels prior to school entry was established. The high risk and control children were reexamined at the end of their third year in school. Contrary to the hypothesis, the groups did not differ significantly in their average reading ability at this time. For the present purposes, however, the most relevant finding was that the groups continued to differ significantly on all of the measures common to the work of Robinson and Schwartz and the present investigators. This finding suggests that perceptual and motor difficulties as measured by the instruments employed in the present study have some stability over moderately long periods of time, but that these measures do not always predict academic success, at least in the area of reading. These results are consistent with the existing evidence that the referral problems of clinic children often involve perceptual or motor problems, yet are often not accompanied by concerns about academic progress among the parents of the enrollees (Fretz, Johnson and Johnson, 1968).

As many of the children referred to the clinic are labelled as coordination problems (Fretz, Johnson and Johnson, 1968) a measure of motor skill was chosen for inclusion in the assessment battery of the present study. Studies by Rapin, Costa and their colleagues (Rapin, Tourk and Costa, 1966; Rapin, Scarola and Costa, 1967) indicate that the Purdue Pegboard is an effective screening de-

vice as well as a measure of manual dexterity. Norms are reported from normal children 6 to 10 years of age and comparison data for performance of neurological clinic cases, retardates, deaf children and children seen non-neurologically in a pediatric clinic are given. The test successfully differentiated the neurologically from non-neurological clinic cases. "It can be looked on as an additional test of co-ordinated movement which is quite sensitive to mild deficits and has the great advantage of being scored quantitatively. A child's performance can be compared with the standards for his age and be followed reliability over time...It is sensitive to the syndrome of clumsiness, hyperactivity, and visual motor dysfunction frequently labelled 'non-motor brain damage'." (Rapin et al 1966, p. 52-53).

Recent findings reported by Sattler (1974) regarding performance of children with learning disabilities, retardation, perceptual problems, brain damage and minimal brain dysfunction indicate that certain WISC subscales are difficult for children with one or more of these problems. The Information subtest has been found to be among the most difficult of the WISC subtests for children with reading problems or retardation. The Similarities subtest is a good measure of integration as is the performance scale subtest of Block Design, Both are sensitive to disturbances in integration, with Block Design particularly difficult for children with perceptual difficulties. Children with visual perceptual motor dysfunction, brain damage and minimal brain dysfunction also perform less well than their peers on each of these subtests. In addition, Block Design has been found to be susceptible to training, thus making this test potentially sensitive to clinic effects. (Sattler, 1974)

In order to ascertain the initial characteristics of first time enrolees in the Physical Developmental Clinic, a combination of behavioral ratings, parent interviews and standardized tests was used. To determine what, if any, changes had occurred from initial entrance to completion of the 8-week Clinic session, these measures were again administered after completion of the session.

Method

Subjects

Subjects were 18 male children between 6 and 9 years of age (mean age, 7.61 years) and their parents. Ss were recruited from registrants for the Fall 1972 8-week Clinic session by calling parents and sending a letter indicating that the project was concerned with evaluating the Clinic program. Of approximately 75 families contacted, 22 were located with 24 children who apparently met the criterion of lack of extensive Clinic experience (first time in Clinic or summer only participant). One 6 year old had to be discarded as an S as he cried throughout the testing procedure and scorable results could not be obtained. Five additional Ss participated in both the pre and post evaluation sessions, but were found during post interview to have had more Clinic experience than specified by the criterion. The results of these Ss are not included in the results. In addition 5 female Ss were volunteered by their parents and acted as training subjects for standardization of procedures across testers, observers and interviewers. Their data, not reported here, tended to confirm the previously reported finding that entering females are more severely handicapped.

Experimenters[2]

In addition to the investigatory, 2 advanced graduate student research

assistants served as observers for the behavioral assessment sessions, and also assisted in interviewing parents. Four trained testers administered the test battery to the children, assisted during the post session by one of the investigators. The other investigator conducted approximately 90% of the parent interviewers.

Materials

The Child Behavior Inventory (CBI) was an instrument developed specifically for use in the present investigation. It was designed to identify the qualitative character of a child's performance in a number of common social or task situations. Twelve common situations, such as meeting an unfamiliar adult or being given a new toy to play with were described, with seven substantive responses to be checked and an "other" category for behaviors not described in the choices. For each situation the choices were written to reflect a particular set of possible orientations to the problem. The types of reactions reflected in the choices were defined as follows:

1) Effective - Responds to the situation with appropriate behaviors and and achieves mastery or success

2) Ineffective - Responds to the situation with appropriate behaviors but fails to achieve mastery or success due to skill deficits

3) Impulsive - Responds to the situation with task oriented behaviors, but without sufficient control or attention to demand characteristics to permit success

4) Avoidant - Attempts to escape from the situation or engages in behaviors irrelevant to the demand characteristics of the task or situation

5) Dependent - Seeks help in the situation without a full attempt to master it independently

6) Aggressive - Engages in apparently purposive efforts to damage the person or object central to the situation

7) Self-deprecating - Verbally reports inadequate ability to master the situation and avoids it or seeks help

The response categories offered for each situation were not regarded as mutually exclusive and informants were permitted to check as many responses as they had observed to occur or guessed would occur. Thus, the instrument was designed to provide an overall picture of the child's behavioral repertoire as observed in a number of situations. It was hoped that such data would be of future use in planning clinical interventions for a given child. For the purpose of the present investigation, however, the CBI was analyzed to detect cross-situational response tendencies. The total number of responses checked in each category was summed for each child. In this way a child could receive a score from 0 to 12 for each response class, with 0 meaning that a type of response, e.g., avoidance, was not reported to occur in any of the situations and a 12 indicating that it occured in every case.

The primary purpose of the CBI was to determine how parents perceived their childrens' response tendencies. The instrument was also designed to permit examiners acting as participant observers to record the actual behavior of the child. For each situation described in the inventory a laboratory simulation was constructed, e.g., meeting the examiner provided data for the item on meeting strange adults. In this way, data from trained observers were collected as a cross-check on parental reports. It was realized, however, that observer-parent discrepancies would not necessarily indicate parental

distortions. The examiner would have had only a single opportunity to observe the child's response, whereas the parent would presumably be reporting on the basis of repeated opportunities to observe the child. Further, it was recognized that behaviors evidenced in the absence of the parent might differ significantly from these manifested in the presence of the parent.

Assessment Battery

A battery of tests designed to assess motor, visual perceptual and intellectual functioning was assembled. Although additional WISC subtests had been included, they were discarded when pilot work (the training of the testers and observers) indicated that the attention and motivation of the Ss declined with a longer testing period. The average testing time for the final battery was 45 minutes. The battery was composed of the following tests:

The Frostig Developmental Test of Visual Perception (Frostig, 1964):

1. Eye-motor coordination subtest: a test of eye-hand coordination involving the drawing of continuous straight, curved or angled lines between boundaries of various width or from point to point without guide lines.

2. Figure-ground subtest: a test involving shifts in perception of figures against increasingly complex grounds. Intersecting and "hidden" geometric forms are used.

Even though the age ceiling on the Frostig is below the age of some Ss, past perfromance of Clinic enrollees has indicated that the test is sensitive to the problems of these older children (Fretz, 1970). Raw scores are reported.

Bender Motor Gestalt Test (Bender, 1946):

The Koppitz Developmental Scoring System (1964) provides a standardized scoring system for children. Scoring is in terms of errors which are defined

in an age-related manner. Three scores were used: total errors, and scores for significant and very significant signs for brain damage.

Purdue Pegboard (Tiffin, 1968):

a performance test involving the placing of pins in holes with dominant hand, nondominant hand and both hands, as well as an assembly test requiring coordinated use of both hands. Children's norms are given in Rapin, Tourk and Costa (1966).

WISC (Wechsler, 1949):

1. Information subtest: a test measuring range of knowledge; long range memory.

2. Similarities: a measure of verbal concept formation and logical thinking.

3. Block Design: a measure of visual motor coordination, perceptual organization, spatial visualization, abstract conceptualizating ability, analysis and synthesis.

Sattler (1974) reports that reliability for the combination of Information, Similarities, and Block Design is .867.

Procedure

Each child and his parents were met by an investigator or observer and the child was then either taken to the observation room for administration of the CBI or was introduced to the tester and taken to a small testing room with child-sized furniture and administered the test battery. If the child completed one part of the procedure before the observer or tester was free to administer the second part, he was taken to a room with toys and puzzles with which he could play while waiting. While the child was being tested and observed on the CBI tasks, each parent filled out the CBI form and was then

seen by one of the investigators for a structured interview. If both parents accompanied a child, each completed a separate CBI form and then they were interviewed together. This procedure was followed for both the session prior to the beginning of the Clinic and the session after completion of the 8-week program.

Results

The results to be reported are divided into a) demographic characteristics of the sample, b) the pre and post session CBI administered to parents and as completed by the observers, c) the pre and post session test battery and d) the post session interview with parents, including their ratings of change.

Demographic characteristics

The average age of the Ss was 7.61 years, with a standard deviation of 1.1. Table 1 indicated the distribution of education of Ss and their parents, parents occupational level, number of siblings, mother's age at S's birth, medication, medical problem history, and presenting problems as stated by the parents. Average grade placement was 2.6, approximately the expected level. Father's educational and occupational levels indicated that this was a well educated group in the professional, managerial and technical occupational levels. Two-thirds of the mothers had attended college and one-third had graduate credits or degrees. The majority of mothers were not employed outside the household.

There were no only children in the sample. Twenty-eight percent of the children had a sibling in the clinic.

Indications of the heterogenity of the sample and of their problems are indicated by placement in spcial educational classes (33%), current prescribed

Table

Characteristics of First Time Enrollees and Their Parents

Education

Grade placement	1st	2nd	3rd	4th	Ungraded
Number of Ss	3	3	6	3	3

Special Education	Yes	No
Number of Ss	6	12

	High School	College	Bachelor Degree	Graduate work	Graduate or Prof. degree
Father's Education	1	4	4	3	6
Mother's Education	6	3	3	3	3

Occupational Level	Prof.	Managerial	Clerical	Not Employed
Father	7	10	1	
Mother		6	1	11

Siblings	0	1	2	3	4	5	6	7
No.		5	6	3	3			1
No in Clinic	13	5						

Mother's Age at Birth	20-25	26-30	31-35	Not stated
No.	4	12	1	1

Medical Problems	Yes	No
History	7	11
Presently on Medication	7	11

Presenting Problems (total frequency more than 18-most parents gave more than 1 response)

	Primary	Stated
Motor coordination, including large and/or fine muscle coordination	13	13
Hyperactivity; poor attention span; distractibility	4	10
Visual/auditory perceptual problems; learning or reading problems		6
"Immature," problems of self confidence; unaggressive	1	8
Destructive		2
Miscellaneous, including brain damage		5

medication (39%), and a reported history of more than usual medical problems, including convulsions, high fever, brain damage and other trauma (39%).

The primary problems for which parents reported they expected Clinic help fit in nature and frequency the already described characteristics of the Clinic population. Most frequent problem was some form of coordination difficulty. Second most frequently mentioned were aspects of the "hyperactivity" syndrome. Remaining classifiable problems generally fell into two classes: social adaption problems and learning related difficulties.

Parents reported referral from the school most frequently (teacher, psychologist or other professional). However, the single most frequent specific referral agent was a physician, primarily a neurologist. In many cases, the school had first suggested the medical examination, which had subsequently resulted in the neurologist's referral. In a few cases, enrollment was based upon knowledge of the Clinic from already enrolled sibling.

Few significant correlations between demographic variables were found. Most relationships found were of an expected type: special educational placement with both grade placement ($r = -.53$, $p < .05$) and medical problems ($r = .64$, $p < .01$); medical problems with current medication ($r = .53$, $p < .05$); and age with grade ($r = .64$, $p < .01$).

Child Behavior Inventory

Findings from the CBI may be divided into five areas; a) reliability (stability) of the instrument, b) intercorrelations between scales, c) average subscale scores, d) correlations between CBI subscales and other measures, and e) pre-post-comparisons on CBI subscales.

In that the CBI was an instrument newly developed for the study, its

quality as a psychometric device was not established. The present data does, however, provide the basis for forming some tentative impressions about the stability of the subtest scores, a component of reliability. Observers and parents completed the instrument twice with the three months of clinic participation intervening. Given that the clinic experience was assumed to impact upon the type of behaviors measured by the CBI, it was to be expected that less than complete stability would be indicated by pre-post correlations of scores. Moderate or high correlations would, if found, be impressive evidence that the test items were not meaningless or were not being answered randomly. Table 2 shows the correlations actually found for parents and observers. The three month stability on the aggression subscale could not be computed for parents due to the presence of zero scores. Of the remaining 13 correlations 7 were positive and significant. Interestingly, the most stable scale for parents, "self-deprecating", was the least stable for observers. This may have been because it was difficult for observers to hear or understand the verbal response which was necessary to score in this category, while parents with more exposure to the children were able to detect self deprecatory remarks with relative ease. Overall, the CBI proved more reliable for parents than observers, with mean correlation coefficients of .56 and .36 respectively.

With regard to the intercorrelations between CBI subscales, the data generally support the assumption that they were independent. Table 3 shows the significant intercorrelations which were found for parents pre and post and observers pre and post. No correlations with the parent pre scores on aggressiveness could be computed dur to zero scores on this scale. Of the remaining 312 possible correlations, excluding scale with self correlations, only 35 were significant at the .05 level of better.

Table 2

Test-Retest Correlations for Parents and Observers

on CBI Sub-scales

Subscale	Data Source: Parents	Observers
Effective	.5424*	.5674*
Ineffective	.3748	.2252
Impulsive	.6827**	.7420**
Avoidant	.5938**	.1838
Dependent	.3748	.2252
Aggresive	1	.6176**
Self-depricatory	.7875**	-.0273

* $p \leq .05$ ** $p \leq .01$

1. Not computed due to the presence of zero divisors

Table 3

Significant intercorrelations Between CBI Subscales Excluding Within Scale Correlations

		Impulsive				Avoidant				Self-deprecating				Dependent				Ineffective				Aggressive			
		O_1	O_2	P_1	P_2	O_1	O_2	P_1	P_2	O_1	O_2	P_1	P_2	O_1	O_2	P_1	P_2	O_1	O_2	P_1	P_2	O_1	O_2	P_1	P_2
Effective	O_1													-.61*				-.64*		-.47					
	O_2	.61*	-.67*											-.60*					-.70*						
	P_1													-.51											
	P_2				-.57							.48		-.54											
Impulsive	O_1																			.09					
	O_2																		.50	.58					
	P_1							.70	.50	.50								.53							
	P_2									.59*								.80					-.49		
Avoidant	O_1										.52			.67											
	O_2																								
	P_1									.67*		.51											.55		
	P_2									.56		.58	.48										.57		
Self-deprecating	O_1																	.47							
	O_2														.89*										
	P_1																.72*				.53				
	P_2																								
Dependent	O_1																								
	O_2																								
	P_1																				.70				
	P_2																								
Ineffective	O_1																								
	O_2																								
	P_1																								
	P_2																								

* $p \leq .01$ All other $p \leq .05$

One finding which may be worthy of special consideration was the negative correlation between observer preclinic ratings of dependency and effectiveness as rated by observers and parents both before and after the clinic experience. This outcome suggests that children who sought the help of the unfamiliar examiner in their initial experience in the test situations tended to be seen as relatively limited in effective responses to situations. It should be noted, however, that the actual frequency with which observers rated behavior as dependent in the preclinic testing was quite low, an average score of .44, indicating that a few unusually dependent children who also lacked effective behaviors may have accounted for the observed relationship.

The third type of data to be gleaned from the CBI is perhaps the most directly relevant to the descriptive purpose of the study. Average preclinic scores on the various subscales provide a picture of the initial response repertoires of the children as seen by parents and observers. These data are shown in Table 4. As is evident both parents and observers most often reported the children's responses to be of an effective nature. Clearly, as a group, the children were not severely impaired in their behavioral capacities. The second highest subscale scores were for ineffective behavior, indicating that where inadequate responses were seen to occur they were most often seen as relating to skill deficits. The remaining subscales did not achieve the same rank for parents and observers. Not surprisingly, parents reported relatively more dependency than observers; it would hardly seem likely that most children would show their full potential for help seeking behavior where only the unfamiliar observer would be available to provide aid. A final intriguing finding was the difference in the relative ranking of aggression scale scores for parents and observers. Aggressive responses were

Table 4

CBI Subscale Scores and Rankings Before Clinic Participation

	Parents			Observers		
Scale	Mean	S.D.	Rank	Mean	S.D.	Rank
Effective	5.78	3.22	1	5.67	2.40	1
Ineffective	3.33	1.94	2	1.83	1.47	2
Dependent	2.83	1.62	3	0.44	0.62	6
Impulsive	2.61	2.64	4	1.56	1.72	3
Self-deprecatory	1.61	1.69	5	0.39	0.70	7
Avoidant	1.44	1.50	6	1.11	0.58	5
Aggressive	0.00	0.00	7	1.17	1.04	4

the fourth most common reaction pattern as seen by observers, while parents reported no aggression whatsoever. This finding is subject to several possible interpretations. One possibility is that the children inhibit aggression in the target situations when parents are present. Another possibility, not exclusive of the first, is that parents tend to attribute their childrens' actions in various situations to motives other than a desire to do harm, such as a clumsy attempt to achieve mastery.

A fourth area of analysis of the CBI data was the correlation of subscale scores with other measures. When the CBI scores were correlated with demographic variables little of note emerged. The only finding which appeared to be clearly meaningful in this matrix was an inverse relationship between the effectiveness scores and enrollment of the child in special education, i.e., children who were rarely seen as effective in their responses to the situations on the CBI tended to be in special classes. There was also some suggestion in the data that the children of older mothers tended to less impulsive, and more dependent, self-deprecating and ineffective as seen by parents or observers, but this finding was only marginally supported by the data. With regard to the association between CBI and subscale scores a more impressive finding emerged; the effectiveness and dependency subscales were frequently found to be reasonably predictive of test battery performance. Table 5 summarizes the data for these two scales by presenting the significant correlations which were discovered. For the effectiveness scale, high scores tended to be positively correlated with good performance on the Purdue motor skills measures, WISC verbal performances and Frostig visual-motor adequacy; negative correlations were found with Bender error scores and Bender indicators of organic impairment. These findings may be interpreted to show that children

Table 5

Significant Correlations Between Two CBI Subscale Scores and Test Battery Scores

		Purdue L		Purdue R		Purdue R		Purdue Ass.		WISC INFO		WISC BD		WISC SIM		BENDER ERROR		Bender-Very SIGNS Sig.		Bender Signs		Frost E-H		Frost S-G	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Effectiveness	O_1									.62*	.66*			.48		-.48		-.49		-.50					
	O_2					.56	.54			.64	.60			.59*	.57	-.55	-.65*	-.71		-.69	-.51	.62*	.66*	.54	.57
	P_1			.56	.52					.52	.58	.57	.54	.63*	.56	-.48		-.52	-.47			.52	.58	.	.5
	P_2																	-.66*							
Dependency	O_1			-.54		-.52		-.55		-.61*	-.69*					.58	.53	.67*		.52		-.60*	.64*	-.61*	-.
	O_2					-.81*										.51	.57			.54		-.48		-.53	-.56
	P_1																								
	P_2					-.48																			

* $p < .01$ All others, $p < .05$

who were rated by parents and observers as effective in the CBI situations tended to be more competant in cognitive and motor skills as assessed by the test battery. It is notable, however, that the parent post clinic ratings of effectiveness did not correlate with test measures as did the pre clinic ratings. This would seem to mean that the clinic experience either differentially affected situational and test performances, or that parents tended to see changes in social performances even where basic skills did not improve.

For the dependency subscale only, observer ratings tended to correlate with test data. Findings here again appear to make reasonable sense. High dependency was associated with low cognitive and perceptual performance.

A somewhat speculative interpretation of the significant correlations between CBI and test battery data may be in order at this point. Findings seem to suggest that the clinic sample included two types of children. On one hand, there were boys who showed evidence of cognitive or motor deficits and who were also situationally non-effective and dependent. On the other hand, there were children whose test scores were less indicative of any serious organicity and who were more effective and less depencent in their situational responses.

The changes on CBI, or lack therof which occured between the first and second administration of the instrument indicated parents reported no behavioral changes. Simply stated, only one significant change at the .05 level was found out of 13 analyses (again a test could not be done for parent aggressiveness rating due to zero scores). The one finding of change was that observers noted less impulsive behavior during the second observation. Thus, the CBI data did not indicate that for the children as a group there

was a significant change in their situational responses, with the exception of one observer rating conceivably related to a familiarity effect on re-administration.

In addition to the parent perceptions of changes in their children inferable from CBI data, a set of questions on perceived changes were asked, of parents in the post clinic interview. A five point rating scale was employed with the following anchor points: 1 = much worse, 2 = slightly worse, 3 = about the same, 4 = slightly better, 5 = much better. Seven areas of functioning were examined, including overall functioning, peer relations, large muscle coordination, fine muscle coordination, thinking and reasoning, persistence, and relations with parents. Parents ratings were significantly indicative of positive change for all areas with the exception of peer relations, thinking and reasoning, and relations with parents. Thus, it would appear that parents tended to assess their children as being improved, even though specific behavioral changes were not reported by them in completing the CBI. This finding may indicate an optimistic distortion on the part of parents in their assessment of outcome, or may merely indicate that the CBI was too gross a measure to detect the changes associated with a single semester in the clinic. In either case, parent post clinic reports were favorable enough to explain why a majority of parents enrolling their children for the first time seek readmission for succeeding semesters, often extending the time in the program to several years.

Test battery

Table 6 indicates means, standard deviations and stability coefficients for each test scale. All correlations are significant at the .05 or .01

Table 6

Means, Standard Deviations and Pre-post session

Correlations for Assessment Measures (N = 18)

Test	Pre Session $\bar{X}$	Pre Session S.D.	Post Session $\bar{X}$	Post Session S.D.	Corr
PURDUE					
Purdue, dom. hand	9.33	2.00	10.22	3.15	.57*
Purdue, non-dominant	9.39	2.55	9.89	2.81	.67**
Purdue, both	7.17	2.20	7.28	2.24	.69**
Purdue Assembly	1.72	1.18	1.83	1.04	.68**
WISC					
Information	8.94	4.63	9.89	4.97	.96**
Block Design	12.06	9.96	13.67	11.57	.91**
Similarities	6.44	4.66	8.61	6.78	.92**
BENDER					
Errors	10.18	9.08	9.50	8.13	.87**
Significant Signs	4.88	2.76	4.77	3.26	.60*
Very Significant Signs	1.76	1.89	1.28	1.71	.83**
FROSTIG					
Eye-Coord.	12.83	6.73	14.06	6.18	.77**
Figure-Ground	14.00	6.15	15.17	6.34	.94**

* $p < .05$

** $p < .01$

level. Highest test-retest correlations were for the WISC scales. Lowest stability was found for the Purdue Pegboard (non-dominant hand) and for the Bender significant signs of organicity. Although approximately half of the correlations for each of these two scales were significantly related to performance on other scales, these scales had the fewest significant correlations with other test measures in an otherwise almost totally interrelated set of measures. Table 7 gives the correlations between the various scales.

Comparison of performance on the Purdue motor skills tests with the Rapin et al norms (1966) indicated that the Clinic sample performed about as expected when each hand is used, but is slightly below the norms sample when coordinated use of both hands is required. Mean scores for dominant hand were 9.33 and 10.22 as compared to 9 for 6-7 year olds and 10 for 8-9 year olds. Mean non-dominant hand scores were 9.39 and 9.89 as compared to 8 for 6-7 year olds and 9 for 8-9 year olds. The both hand peg placement mean was 7.17 and 7.28 for the sample while the average score for 6-7 year olds was 8 and 8-9 year olds was 9. It should be noted however that, despite the claim that performance is independent of educational level, not only were the tests related to the WISC subtests, but also to grade.

Indeed, all measures except the Purdue non-dominant hand pretest and Bender significant signs pretest scores were related to grade. WISC Information and Similarities performance and both Frostig measures were negatively related to special education status. The Bender error score was positively related to special education status. Thus both cognitive and perceptual measures related to learning difficulties. Age was positively related to WISC scores, Purdue Assembly and the Frostig scales. All of the relationships are in the expected direction.

Table 7

Significant Correlations Between Tests

Tests		Frostig E-H		Frostig F-G		Bender Errors		Bender **		Bender **		WISC INFO		WISC BD		WISC Sim	
Session		P_1	P_2	P_1	P_2	P_1	P_2	P_1	P_2	P_1	P_2	P_1	P_2	P_1	P_2	P_1	P_2
Purdue (ND)	P_1	.54	.48	.63	.53	-	-53	-	-	-	-63	-	-	.53	-	-	-
	P_1	.64	.49	.57	.64	-67	-54	-50	-	-53	-57	-	-	-	-	-	-
Purdue (D)	P_1	.63	-	.58	.58	-70	-72	-	-	-66	-75	54	52	61	59	73	63
	P_2	.69	.61	.59	.59	-77	-73	-70	-58	-73	-58	70	70	49	57	52	-
Purdue (both)	P_1	.74	57	.73	.76	-69	-74	-	-	-66	-70	-	-	-	-	-	-
	P_2	.71	59	.70	.71	-77	-78	-55	-62	-74	-67	57	61	50	52	66	57
Purdue (Ass.)	P_1	.74	.53	.78	.72	-82	-75	-59	-58	-78	-66	78	77	54	56	60	-
	P_2	.49	-	57	.60	-69	-54	-59	-	-56	-50	-	-	48	52	54	-
Frostig E-H	P_1					-71	-78	-	-64	-66	-62	78	71	55	57	69	65
	P_2					-76	-80	-61	-84	-67	-58	58	63	60	60	58	54
Frostig F-G	P_1					-76	-87	-50	-82	-70	-71	69	72	69	68	67	58
	P_2					-.77	-8.4	-51	-74	-67	-67	65	69	67	64	64	56
Bender Errors	P_1											-69	-74	-59	-61	-64	-
	P_2											-.76	-78	-70	-68	-77	-67

33/34

Table 7 (continued)

Significant Correlations Between Tests

Tests		Frostig E-H		Frostig F-G		Bender Errors		Bender **		Bender **		WISC INFO		WISC BD		WISC Sim	
Session		P_1	P_2	P_1	P_2	P_1	P_2	P_1	P_2	P_1	P_2	P_1	P_2	P_1	P_2	P_1	P_2
Bender * Signs	P_1											-	-53	-	-	-	-
	P_2											-65	-71	-59	-58	-65	-58
Bender **Signs	P_1											-70	-68	-56	-59	-63	-
	P_2											-64	-63	-64	-59	-69	-57

all $p \leq .05$

Of greater interest, in terms of relationship to demographic variables, was the finding of a negative relationship between mother's age at S's birth and 5 of the Purdue measures. Mother's age was also positively related to post session signs of organicity.

Measures of perceptual status, excluding the Bender significant signs scale, were almost all related to other test measures. The Bender error scores and the very significant signs score were negatively correlated with the Purdue scales, with a median correlation of -.69. The two scales of the Frostig were positively related to Purdue performance with a median correlation of .62. These perceptual measures were also related to the WISC scales. For Bender error and very significant sign scores, 22 out of 24 correlations were significant with a median correlation of -.68. All Frostig-WISC correlations were significant (at least $p < .05$) with a median correlation of .65.

Thus the interrelationships among the test variables and the relations with the demographic variables would indicate an generally impaired pattern of motor, perceptual and cognitive abilities associated with diagnosed learning disabilities as indicated by special education placement, while a higher level of functioning on these measures was positively related to age and grade placement.

Post session parents' ratings of large muscle coordination improvement was positively related to pre session non-dominant hand performante ($r = .75$) and negatively related to the very significant organic impairment signs of the Bender ($r = -.60$). Ratings of fine muscle improvement were negatively related to pre session eye-hand coordination and to all WISC measures (median $r = -.64$). Interestingly, improvement ratings were positively related ($r = .57$) to having previous through minor Clinic experience (i.e., a summer program).

A picture of the more impaired children showing more improvement in fine motor coordination in the eyes of their parents emerges from the ratings and test data.

Despite past findings of change in coordination skills with Clinic experience, no significant changes in the Purdue scores from pre to post session were found for this first enrollment sample. Indeed the only significant changes were on the WISC Information and Similarities tests, although all differences were in the direction of improvement on all scales. It should be noted however that initial analyses, which included the subsequently discarded 5 "experienced" Ss, indicated significant changes on both motor and perceptual measures similar to those previously reported: Purdue dominant hand, Bender very significant signs, and Frostig figure-ground scales.

Thus, as found with the CBI scales, little positive change is shown by first time enrollees on objective measures, although parents report improvement in coordination.

Post Session Interview

Mean ratings for the post interview change scales are given in Table 8. A rating of 3 indicated no change. All ratings are in the positive change direction and the ratings of overall change, large muscle coordination, fine muscle coordination and persistence are significantly different from no change ($p < .05$). Relations with peer, relations with parents and thinking and reasoning were not significantly different from no change.

Among the ratings, ratings of overall improvement were positively related to improvement in peer relationships ($r = .66$) and in parent relationships ($r = .73$). Peer and parent relations were highly related ($r = .74$).

Table 8

Parents' Post Interview Ratings of Change Means,

Standard Deviations and Difference from no Change

Change	Mean	Standard Deviation	t
Overall	3.72	1.12	2.488*
Peer Relations	3.53	1.02	ns
Large Muscle Coord.	3.64	.61	3.805**
Fine Muscle Coord.	3.97	.69	5.199**
Thinking & Reasoning	3.33	.60	ns
Persistence	3.34	.46	2.915*
Parent Relations	3.10	.82	ns

* $p < .05$

** $p < .01$

(Scale values: 1 - much worse, 2 = slightly worse, 3 = no change, 4 = slightly better, 5 = much better)

Overall improvement was negatively related to ratings of improvement in large muscle coordination ($r = -.62$). Thus the ratings seem to reflect two kinds of perceived change: overall improvement reflecting improvement in social adaptation and improvement in coordination and persistence.

Negative correlations were found between fine muscle coordination improvement and age and grade ($r = -.66, -.73$ respectively) indicating that parents perceived the younger children as improving more than the older children. Improvement in large muscle coordination was negatively related to mother's age at S's birth.

Discussion

The preclinic status of the children in this sample of first time regular session enrollees conforms to the descriptions previously given of the Clinic population. Although this sample was younger than the samples described in earlier studies, it was demographically similar. Similarly, the heterogeneity of the population is again evidenced. Both the different types of presenting problems and the large variances found for most of the test variables give emphasis to the diversity of the group. These first enrollees are more variable on perceptual and intellectual measures than the samples described by Fretz, Johnson and Johnson (1968) and Fretz (1970). The present group averaged almost twice as many Bender errors as those described in the previous studies. Errors varied from a low of 2 to the maximum possible. The finding of mean errors of 10.18 (pretest) with a standard deviation of 9.08, as well as the strong relationships between the Bender and the motor, perceptual and intellectual measures, would point to the apparent presence of an organically impaired subgroup. The Bender is also related to report

by parents of enrollment in special education classes and a history of medical problems, additional evidence for such a subgroup. From the demographic, CBI, test and interview data, it seems appropriate to suggest that the group could be divided into those with signs of organic impairment and those with few or no such signs. The former appear to have problems of behavioral inadequacies which differ from the latter who seem to have more focused adjustment problems.

Previous studies have reported significant changes on the Eye-motor coordination and Figure-ground tests of the Frostig and the Bender error scores with Clinic experience. Fretz and Johnson (undated) also report observations of less dependency and less "fidgety" behavior after Clinic experience. No such objective changes were found in this study. However, parents apparently did perceive both social and motoric changes in the children.

Several factors may account for the discrepancies between outcomes on objective measures in previous studies and the current investigation. One such factor relates to the stringent criterion of first time enrollment used to select subjects in this study. Previous studies have used samples from the in-clinic population in comparison to waiting list controls. The vast majority of children currently attending the Clinic are repeaters as the small number of first time enrollees in the current study demonstrates. The different results would suggest that the efficacy of the Clinic program depends on more than the initial 7 to 8 hours of Clinic participation to show reliable gains on objective measures. This interpretation would appear to be supported by the relation between the parents' report of fine muscle coordination improvement and a brief previous Clinic experience, and by the significant changes found in the Purdue dominant hand and Frostig Figure-ground scores before the exclusion of the boys with previous regular session Clinic experience.

The discrepancy between the parents' ratings of improvement and the objective measures also calls into question the sensitivity of the measures. The CBI is an experimental instrument assessing the frequency of certain typical behavioral responses to common situations. The validity of the observer CBI ratings is limited by the difficulty of attempting to assess typical responses through the use of a limited number of situations under unfamiliar conditions. Many of these children behave in a passive dependent, manner showing self-deprecation, avoidance, and ineffectiveness. They are unlikely to show the full range of their typical behavior in a novel, unfamiliar situation. The behavioral situations themselves may not have elicited typical behaviors or may be too gross to effectively differentiate performance change. This may account for the limited change found in the parents' CBI ratings.

In contrast to the sparsity of evidence for concrete improvement, the parents' post interview ratings of improvement did reflect change in skill performance and social functioning. The parents' ratings could thus be seen either as reflecting a more sensitive measure of change than the CBI or the test battery, or as reflecting their anticipations and expectations of help from the Clinic program. It was clear from the post session interviews that the parents were generally satisfied with the child's participation and expected to continue to enroll him to the program.

Another possibility is that different outcomes may depend on the initial status of the child. As previously discussed, it may be more meaningful to divide participants into those with signs of organic impairment and those with few or no such signs. The parents' reports support this suggestion, in that the more impaired younger boy is perceived by the parent to make more progress

in muscle coordination. In view of the low number of first time enrollees, any attempt to differentiation between differences in impairment and outcomes must be extremely tentative. It does seem possible from the data, however, that different benefits might result for children with or without evidence of organicity, especially from the first exposure. Passive dependent, seemingly organically impaired children may respond to the one to one clinic intervention by becoming more active, assertive, even impulsive, while showing some gains in skill areas. Thus in a first experience the dependent child may dutifully respond to the clinician's encouragement, thereby becoming more assertive and skillful. Less impaired boys may gain socially from the interaction, becoming less impulsive and more socially effective, but without major changes in skill level. Some boys did seem to increase in aggressiveness. This would be a positive change for dependent children who may have become more assertive after this clinic experience.

Thus, this study of first time enrollees in a physical developmental clinic suggests that a) exposure to more than one 8-week session of the clinic program is necessary to promote measurable change and that b) different outcomes may depend upon the initial status of the child. However, additional research is needed to substantiate these suggestions. No control group was used in this study. A waiting list control group was not available. Attempts to match subjects with non-clinic controls were abandonned when the group proved to be so diverse. Therefore, any attempt to generalize beyond this particular group of boys is limited. It is possible that girls may respond differently to first exposure, and therefore no generalization from this study to the female clinic population is possible.

It is suggested that another kind of control is needed in order to isolate the specific effects of the Clinic program on enrollees. A "placebo" control in which children receive equivalent social contact but without the specific Clinic intervention program is needed to fully evaluate the program. This would also assist in clarifying whether different outcomes should be expected for more versus less generally impaired children.

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FOOTNOTES

1 This research was carried out under Grant OCD CB 55, Children's Bureau, HEW. The computer time for this project was supported through the facilities of the Computer Science Center of the University of Maryland.

2 Linda Runion and David Rindler served as research assistants and Gail Bleech, Mary Halsdorf, Charles Kerns, and Nelson Zahler served as testers. Their assistance is gratefully acknowledged.

3 Copies of the Child Behavior Inventory, the pre interview schedule and the post interview behavior change rating scales are appended.

APPENDIX

1. CHILD BEHAVIOR INVENTORY
2. INTERVIEW SCHEDULE
   A. PRE
   B. POST, INCLUDING RATING SCALE FOR BEHAVIORAL CHANGE

I. CHILD BEHAVIOR INVENTORY

Instructions: We would like to get a picture of how your child behaves in a variety of situations, and which of his behaviors pose special problems. On the following pages are some situations your child might face and some ways he might typically react. For each situation check the behavior you would expect to see. You may check more than one choice. If that behavior seems to be a problem, check the behavior and in addition put a "p" by it. If the behavior is a serious problem, put an "SP" by it. If you haven't actually the situation, check the behavior you would most expect to see, and in addition mark "Best Guess".

****

1. The child can join a game which requires general coordination of his body.

AV _____ a. He fails to join the game.

SDEP _____ b. He says he cannot do well and refuses to join.

DEP _____ c. He is willing to play if someone will help him or if he gets special privileges.

AGG _____ d. He criticezes the game and interferes with it intentionally.

IMP _____ e. He joins the game and does whatever he feels like doing, regardless of the rules or the feelings of others.

EF _____ f. He tries to play and enjoys it.

IN _____ g. He tries to play but is poorly coordinated and may get upset.

_____ h. Other

_____ Best Guess

Avoidant - AV SELF-DEPRECATING - SDEP

Aggressive - AG

Impulsive - IMP

Ineffectual - IN

Dependent - DEP

Effective - EF

2. Your child is left alone withsome small objects that require coordination to manipulate.

DEP _____ a. He seeks help.

IN _____ b. He tries to work with the objects but is frustrated by his clumsiness.

EF _____ c. He works with the object and enjoys it.

AV _____ d. He does not work with the object.

SD _____ e. He says he cannot do the task and does not try.

AGG _____ f. He intentionally mishandles the object so as to damage it.

IMP _____ g. He plays with the object, but wildly and without a planned effort to succeed in his manipulations.

_____ h. Other

_____ Best Guess

3. Your child must solve a problem that requires thought, for example, assembling a complicated new toy.

IMP _____ a. He impulsively does whatever he feels like with the toy.

AV _____ b. He shows no interest in the toy.

IN _____ c. He tries to understand but usually cannot and may cry or get upset.

SDEP _____ d. He says he cannot understand and asks for help.

DEP _____ e. He asks for help before really trying to understand.

AGG _____ f. He tries to break the toy.

EF _____ g. He learns how to assemble the toy without help.

_____ h. Other

_____ Best Guess

4. Your child is asked to perform in a school subject at which he is not particularly good.

AGG _____ a. He gets angry and says something unpleasant to the teacher or other children.

EF _____ b. He tries to do as asked and does pretty well.

AV _____ c. He ignores the request or cries.

SDEP _____ d. He indicates that he cannot succeed and does not try.

DEP _____ e. He asks someone to help him with the task.

EMP _____ f. He performs haphazardly without much concern as to whether he is doing things correctly or incorrectly.

IN _____ g. He tries hard to do as asked but does not succeed in spite of making a good effort.

_____ h. Other

_____ Best Guess

5. Your child is separated from you in a store.

EF _____ a. He finds some workable solution to the problem withoug difficulty.

SDEP _____ b. He says that he is too dumb to find what he wants and gives up.

AGG _____ c. He gets angry at others for putting him in the spot he is in.

IN _____ d. He tries to find you but is poor at solving the problem.

DEP _____ e. He tries to find someone to help him.

EMP _____ f. He runs around in different directions without a plan.

AV _____ g. He makes no effort to be found and may just cry.

_____ h. Other

_____ Best Guess

6. Your child is introduced to an unfamiliar adult.

IMP _____ a. He immediately shows "wild" behavior, perhaps making demands on the stranger.

AGG _____ b. He shows anger or definite unfriendliness.

EF _____ c. He is relaxed and friendly with the strange adult.

DEP _____ d. He clings to you and will not let you leave.

IN _____ e. He tries to meet the stranger, but is awkward and does the wrong thing.

AV _____ f. He shyly retreats, is silent or cries.

AV _____ g. He refuses to be introduced to the strange adult.

_____ h. Other

_____ Best Guess

*7. Your child is introduced to a group of children he doesn't know.

AV _____ a. He pulls away and avoids contact with the strange children.

IN _____ b. He attempts to be friendly, but does things which are inappropriate and prevent his being accepted.

DEP _____ c. He wants you to stay and help him get to know the new children.

IMP _____ d. He jumps right in with the new children, but does everything he feels like doing, regardless of their wishes.

EF _____ e. He makes friends with them without any difficulty.

SDEP _____ f. He says that he can't make friends or that others wouldn't want him.

AGG _____ g. He is distinctly unfriendly with the new children.

_____ h. Other

_____ Best Guess

8. Your child is given a new toy to play with.

IN _____ a. He tries to use the new toy but is clumsy or unimaginative.

IMP _____ b. He quickly tries to do everything with the toy without sticking to one type of play, and may quickly lose interest in the toy.

AV _____ c. He is reluctant to accept the toy, afraid of it, or shows no interest.

SDEP _____ d. He says that he doesn't deserve it or is not capable of using it.

EF _____ e. He takes the toy and readily learns to use it correctly and imaginatively.

AGG _____ f. He intentionally tries to damage or destroy the toy.

DEP _____ g. He wants someone to help him play with the toy.

_____ h. Other

_____ Best Guess

9. You forbid your child from taking a cookie that is within his reach.

EF _____ a. He obeys after trying to convince you to change your mind.

DEP _____ b. He persistently begs you to allow him a cookie, but doesn't take them.

AGG _____ c. He sneaks the cookie when you aren't looking.

IMP _____ d. He takes the cookie without effort to argue or cover up his actions.

SDEP _____ e. He feels he does not deserve to have one anyway.

AV _____ f. He goes away and makes no effort to get the cookie.

_____ g. Other

_____ Best Guess

10. Your child has friends come over to play with him.

AV _____ a. He pays little attention to them and tries to play by himself.

EF _____ b. He plays cooperatively with his friends and enjoys himself.

DEP _____ c. He wants an adult to play with them or just watch, even though his friends are present.

AGG _____ d. He gets into many arguments with his friends and perhaps calls them names or hits them.

IMP _____ e. He does whatever he wants regardless of whatever the other children want, taking any toy that appeals to him and moving from one activity to another quickly.

IN _____ f. He tries to play cooperatively with his friends but is poor at communicating with them or cannot learn their games.

SDEP _____ g. He tells his friends that he is no good at things and lets them run the show.

_____ h. Other

_____ Best Guess

11. Your child breaks a toy that belongs to another child.

IN _____ a. He tries to fix it but ends up crying because he cannot.

AGG _____ b. He then breaks the toy completely out of anger or blames someone else.

DEP _____ c. He gets upset and immediately looks for an adult to fix the toy and comfort him.

AV _____ d. He doesn't care or pretends he didn't do it or runs away.

EF _____ e. He tries to fix the toy and if he cannot, explaing clearly what happened.

IMP _____ f. He acts in a disorganized way, trying to fix it without plan or consistent effort.

SDEP _____ g. He gets angry with himself, accusing himself of badness or clumsiness.

_____ h. Other

_____ Best Guess

12. You ask your child how his day was or what he has done today.

IN _____ a. He is unable to explain clearly or cannot remember.

IMP _____ b. He responds by saying whatever comes into his head, running many ideas together.

SDEP _____ c. He says he did things badly and everything went wrong.

ACG _____ d. He gets angry at the question.

DEP _____ e. He asks someone else to describe his actions or asks for help.

LES _____ f. He clearly describes the important events in an organized way.

AV _____ g. He ignores the question or makes up stories.

_____ h. Other

_____ Best Guess

13. Please select an incident or situation, and describe the situation and your child's most typical reactions to the situation.

PRE-INTERVIEW PROTOCOL

1. Parents names, address, phone number
2. Child's age
3. Is he in a special education class?
4. What grade is he in?
5. Is he currently on medication?

   If so, what medicine? What dosage?
6. Medical history - has he had any serious illness or medical problems?
7. Mother's age at time of birth? Any problems with pregnancy or birth?
8. No of siblings
9. Are there any brothers or sisters in this clinic? How many? Older, younger? Sex?
10. Father's educational level - What was highest level of education?
11. What is his current occupation?
12. Mother's educational level - highest level of school attendance?
13. Mother's current occupation?
14. Has your son previously attended the clinic? If so, how many times has he attended clinic sessions?
15. Who referred?
16. What problems does he have? If more than one mentioned, attempt to identify those viewed as primary and as secondary.

POST-INTERVIEW PROTOCOL

1. How many clinic sessions has your child attended?

   If any were missed, why?

2. Overall, would you describe your child as doing _____since beginning the clinic?

Much Worse · Slightly Worse About the Same Slightly Better Much Better

3. In his relations with peers how has he done since being in the clinic?

4. In his large muscle coordination?

5. In his fine muscle coordination.

6. In his ability to think and reason?

7. In his ability to stick to a task

8. In his relations with you

9. How did your child feel about attending the clinic? (no coding)

10. How did you feel about his attending: Expections?

11. Have there been any important changes or events (other than the clinic) in your childs life since beginning the clinic.